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ASBESTOS IN SCHOOLS AND
MESOTHELIOMA – LOOKING TO THE
FUTURE

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It is uncontroversial that the law concerning mesothelioma represents a special regime. It modifies the rules of causation. But, beyond this, does the mesothelioma regime alter the burden and standard of proof? And what will be the sources of mesothelioma cases in the future?

In this review we consider mesothelioma law and liability, and consider what the sources of mesothelioma cases might be in the future, in particular, schools.

I. HAS THE SPECIAL MESOTHELIOMA RULE ALTERED THE BURDEN OF PROOF?

Mesothelioma: the special rule

Ordinarily a claimant must prove, on the balance of probabilities, that a defendant's tortious behaviour caused the claimant's injury, or that it materially contributed to it. In mesothelioma cases, however, the rule is different. The rule is justifiably different because human science can only tell us that asbestos causes mesothelioma, not how it causes it. Claimants are therefore unable to prove who exactly is responsible for causing their mesothelioma because they cannot prove what period of exposure caused their mesothelioma.

The current rule in mesothelioma cases is the consequence of the decisions in *Fairchild v Glenhaven Funeral Services Ltd* and *Barker v Corus UK Ltd*,¹ and the *Compensation Act 2006*. It provides that 'when a victim contracts mesothelioma each person who has, in breach of duty, been responsible for exposing the victim to a significant quantity of asbestos dust and thus creating a "material increase in risk" of the victim contracting the disease will be held to be jointly and severally liable for causing the disease'.²

The special rule relaxes the necessity to show causation in the traditional sense. It holds that materially increasing the risk of mesothelioma is sufficient to demonstrate causation.

What level of exposure will materially increase the risk of contracting mesothelioma?

In the conjoined cases of *Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore* the issue of what level of exposure will 'materially' increase the risk of contracting mesothelioma was considered.³ It was held that exposure which is de minimis, or trivial, will not materially increase the risk of contracting the disease.⁴ Some exposures are just too insignificant to be taken into account, having regard to the overall exposure that has taken place.

So how significant does an exposure have to be to be capable of materially increasing risk? *Sienkiewicz* suggests not a great deal. In *Sienkiewicz* itself the claimant was exposed only to asbestos fibres that permeated the factory corridors where she worked between 1966 and 1984. The exposure 'was very light'.⁵ The exposure was even less in *Willmore*. There, the claimant was found to have been exposed to asbestos at her secondary school in two ways. Firstly, as a result of work involving the removal, handling and disturbance of asbestos ceiling tiles in a corridor along which the claimant passed, and, secondly, as a result of asbestos ceiling tiles, including broken tiles, being stored in a girls lavatory which had been used by the claimant on many occasions. It was held that this minimal exposure was also material exposure. However, Lord Rodger did express concerns about this finding, although he declined to interfere with it.⁶ He added that despite the harrowing nature of mesothelioma, judges must resist the temptation to give the claimant's case an additional boost by taking a lax approach to the proof of the essential elements.

Standard of proof relaxed?

It is hard to conclude that exposure as light as in Willmore is capable of materially increasing risk on the balance of probabilities. Lord Rodger himself conceded the finding was 'very generous'.⁷ However, it being the case that such exposure has been held to materially increase risk, does this indicate that the standard of proof has been relaxed in mesothelioma cases? Is it no longer necessary to show a material increase in risk on the balance of probabilities? Is it now just enough for a claimant to identify where they may have been exposed to asbestos and say that it materially increased the risk of contracting mesothelioma if they subsequently develop the disease?

Standard of proof reinforced

The issue was recently considered by the High Court in Garner v Salford City Council.⁸ In that case the claimant alleged that she contracted mesothelioma after being exposed to asbestos at school during the demolition of swimming baths (which contained asbestos lagging around pipes) next door to the school. No occupational or other sources of exposure were identified.

It was held that a material increase in risk had not been demonstrated on the balance of probabilities. It was determined, as a matter of fact, that the pipe lagging had been soaked with water before its removal, meaning that the likelihood of asbestos being released into the atmosphere was minimal. Accordingly the risk of inhalation was minimal and unlikely. The claimant failed to prove she had been exposed to asbestos, or that any exposure was significant enough to materially increase the risk of her contracting mesothelioma.

Keith J, at [51], made it abundantly clear that the elimination of any other possible source of exposure did not mean that whatever remained must have been the cause. To have held that the claimant's only possible source of exposure was the cause would have been to hold that the unlikely had occurred. In any event, there were other possible causes, such as environmental exposure. It was simply the case that the claimant could not prove, on the balance of probabilities, that she had been exposed to asbestos during the demolition works or that any exposure was significant enough to have materially increased her risk. The case was simply one of those cases 'where, as a matter of justice and policy, a court should say that the evidence adduced (whatever its type) is too weak to prove anything to an appropriate standard, so...the claim should fail'.⁹

Garner categorically reaffirms the principle that claims must be proven on the balance of probabilities. Nothing less will do. It heeds Lord Rodger's warning in Sienkiewicz that judges must avoid taking a lax approach to proof of the essential elements, despite the natural and understandable desire to compensate mesothelioma victims. It suggests that, going forward, cases like Willmore will no longer be successful.

Looking to the future

Both Willmore and Garner concerned allegations of exposure to asbestos at school. Are children more vulnerable to asbestos exposure? Will school asbestos exposures lead to a flood of mesothelioma claims?

II. HOW LIKELY ARE SCHOOL EXPOSURE CLAIMS?

There are around 10 million full time and part-time pupils in 33,700 schools in the UK.¹⁰ Of the 24,372 schools in England,¹¹ it is estimated that more than 75% have some buildings which contain asbestos-containing materials (ACMs).¹² That means that there are least 18,279 schools in England where there is the potential for occupants – children, teachers, and other staff – to be exposed to asbestos.

The highest concentrations of asbestos are in found in about 13,000 schools constructed between 1945 to the mid-1970s, when the use of ACMs, including amphiboles, was at its peak. During this period a large number of schools were built, extended or refurbished using pre-fabricated components based around a steel, concrete, wood or aluminium frame on which external and internal cladding was

placed. These were light structures vulnerable to fire and so extensive use of ACMs was made and continued until the mid-1970s when their use declined.¹³ ACMs in these schools tend to be in more 'vulnerable' locations with a higher risk of damage and potential fibre release. School buildings constructed before 1946 still often contain asbestos containing products, but this is mostly limited to chrysotile pipe lagging and cement roofing.¹⁴

The sources of asbestos in post war schools are wide and various. They include: thermal insulation around piping, ducting, in floor and ceiling voids; sprayed coatings (mainly crocidolite) for insulation and fire protection on beams, columns and ceilings; insulation board used extensively in walls, window and door surrounds, door panels, ceiling tiles and notice boards; roofing felt; cement products, including roofing sheets and external window panels; reinforced plastics, such as PVC floor tiles, toilet cisterns and toilet seats; bitumen mastics and adhesives, which were used for items such as floor tiles and wall coverings; and, Artex textured ceilings.¹⁵ ACMs were also commonly encountered in science and wood / metal work lessons – asbestos insulating board, often containing amosite, was used for heat resistant surfaces in laboratories, to line warm air cabinets and fume cupboards, and as Bunsen burner mats. Crocidolite and chrysotile were used as cloth fireblankets, oven mitts and welding aprons.

Asbestos can be released by a range of common classroom activities, such as slamming doors and accidental damage by children. The level of fibre release depends on the type of asbestos material, the type of asbestos it contains, the condition it is in, the type of disturbance and the length of time the disturbance takes place.¹⁶

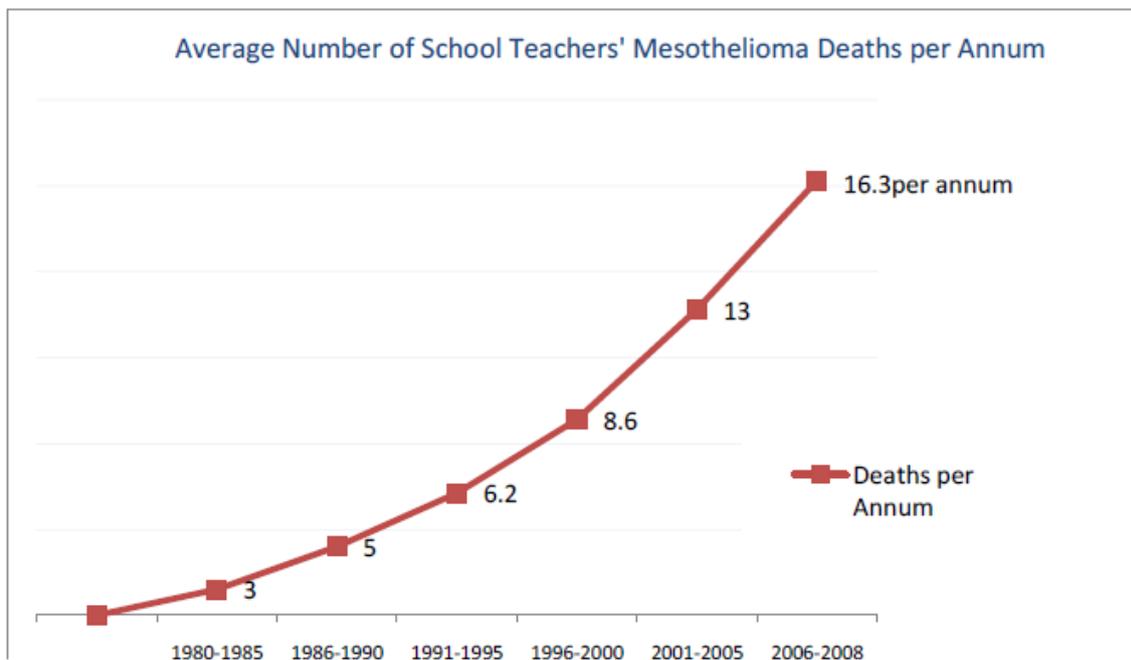
The Medical Research Council stated, in 1997, '*Children attending schools built prior to 1975 are likely to inhale around 3 million respirable fibres...It is not unreasonable to assume, therefore, that the entire school population has been exposed to asbestos in school buildings...Exposure to asbestos may therefore constitute a significant part of total [environmental] exposure.*'¹⁷ It estimated that the outdoor background level of asbestos is between 0.000001 f/ml and 0.0001 f/ml.¹⁸ It is 0.0002 f/ml in buildings not containing asbestos.¹⁹ The level in buildings with asbestos in good condition is 0.0004-0.0005 f/ml.²⁰ The level in schools containing asbestos in *good condition* is 0.0005 f/ml.²¹ Accordingly, while the background level in schools with asbestos in good condition is five to 500 times greater than the outside air, or over double that found inside buildings not containing asbestos, it is the same as the level of asbestos in other asbestos containing buildings.

School Deaths

How is this level of exposure to asbestos reflected in the number of mesothelioma deaths? Up to 2011 a total of 228 school teachers died of mesothelioma.²² This is equivalent to 0.052% of teachers.²³ Moreover, the rate of mesothelioma deaths in teachers appears to be increasing, as the following table and graph shows:²⁴

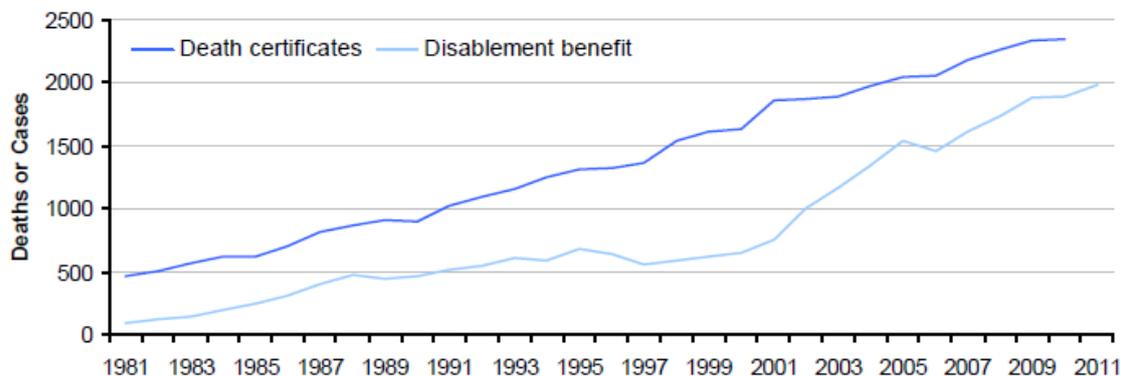
Increasing mesothelioma deaths amongst school teachers

	1980-1985 (Southampton)	1986-1990	1991-1995	1996-2000	2001-2005 (soc 90,2000)	2006-2008 (3 Years)	TOTAL
SCHOOL TEACHERS TEACHERS NEC	15	25	31	43	65	49	228
School teachers deaths Average per annum	3	5	6.2	8.6	13	16.3	



The general trend for mesothelioma deaths in the UK is shown in the following graph:²⁵

Figure 1 – Mesothelioma deaths and disablement benefit cases 1981-2011(p)



The rate of mesothelioma in teachers appears to be increasing at around the same rate compared to all mesothelioma cases generally. Statistics do not show the number of deaths which may be occurring in teaching and school support staff. The Asbestos in Schools report states that the death rate is significantly higher than occupations such as farming or forestry, where there genuinely is little or no contact with asbestos.²⁶ However, a 2009 HSE study suggests that many teachers may also have worked in higher risk jobs and once these individuals are excluded than the risk of mesothelioma amongst teachers may not be significantly higher than for the general non-exposed population.²⁷

Are children more at risk?

On 7 June 2013 the Committee on Carcinogenicity (COC) released its [statement](#) on the relative vulnerability of children to asbestos compared to adults. It concluded that, due to the increased life expectancy of children compared to adults, there is an increased lifetime risk of mesothelioma as a result of the long latency period of the disease.²⁸ The risk is predicted to be 3.5 times greater for a child first exposed at age 5 compared to an adult first exposed at age 25. The risk is 5 times greater when compared to an adult first exposed at age 30.²⁹

However, the Committee was unable to conclude from the limited data whether or not children are intrinsically more susceptible to asbestos-related injuries.³⁰

Medical opinion believes that any exposure above *'the normal background level will materially increase the risk of mesothelioma developing'*.³¹ Indeed the Committee on Carcinogenicity note *'there is no evidence of any threshold for mesothelioma risk'*.³² It also reaffirms that amphibole forms of asbestos may be more potent than chrysotile for mesothelioma risk.³³

The Government's position

An All-Party Parliamentary Group on Occupational Health and Safety has called for a programme for the phased removal of asbestos from all schools.³⁴ The Government's policy however is that, *'so long as the asbestos is in good condition and not likely to be disturbed, it is better to manage it for the remaining life of the school rather than remove it'*.³⁵

There is some evidence that the Government policy of asbestos management in schools is failing. For example in 2009/10 a quarter of local authority schools that were inspected had enforcement action taken against them for failing to safely manage asbestos. A fifth of schools outside local authority control had action taken against them for the same reason.³⁶

However, the Government did indicate, on 13 March 2013, that it will review its policy on the receipt of the COC's final report.³⁷ It remains to be seen what change of policy, if any, there will be.

Predicting the future

The evidence indicates that the level of asbestos in many schools significantly exceeds the background ambient level, although the levels are the same as levels in other buildings containing ACMs where they are properly managed. The concern is whether the ACMs are being properly managed.

There are an increasing number of mesothelioma deaths in the teaching profession and it is thought that children have an increased of contracting mesothelioma because of their increased life expectancy. The leading epidemiologist, Professor Peto, suggests that in future 100-150 mesothelioma deaths per year for both males and females (300 in total) could be due to exposure at school.³⁸

A further concern is whether the future pool of claimants could be extended beyond those who were genuinely exposed at school. About 15% of male cases of mesothelioma and 62% of female cases cannot be attributed to any occupational exposure to asbestos.³⁹ That is about 315 mesotheliomas in males and 250 in females – a total of about 565 (c. 1/4 of all mesothelioma deaths). According to the UK Asbestos Working Party Group (AWP), only 61% of mesothelioma deaths translated into personal injury claims in 2008.⁴⁰ The AWP assumed that no more than about 85-90% of males deaths will ever translate into claims because of this absence of any occupational exposure. The AWP further considered that the % of cases is likely to be less than this as some occupational exposures were during self-employment, some were during service in the armed forces when Crown Immunity may apply and some are where solvent employers / insurers are no longer identifiable.

The potential problem of asbestos in schools is becoming an increasingly public one. Indeed the recent COC statement made national news.⁴¹ Increasing public knowledge and an increasing number of deaths means one thing: local authorities and the other bodies responsible for schools should be prepared for an increasing number of claims. Will schools and local authorities become the 'defendant of last resort' in those cases where no solvent exposing employer or their insurer is identifiable, where exposure arose during self-employment or from DIY activities, where there is an unrecognised or unknown occupational exposure or simply a genuinely 'spontaneous' mesothelioma arising from background risk? These cases might account for many hundreds of the current mesothelioma deaths.

So what exactly would be required to succeed in a school mesothelioma claim?

III. PROVING A SCHOOL MESOTHELIOMA CLAIM

Common law duty of care

In most claims arising from historic exposures prior to the 1980s, whether from staff or pupils, only common law negligence will apply. [For later exposures there may be co-existing statutory duties and a review of specific asbestos legislation is shown as an annex to this article].

The first stage is to identify whether the school owes a duty of care to the individual. It is without question that a school owes a duty of care to its staff and students as a matter of the law of negligence to take reasonable care to protect them from foreseeable health and safety risks.

When did it become reasonably foreseeable to those in the schools sector that mesothelioma could result from asbestos exposure? The law is not entirely settled. Traditionally it was thought that the commonly applied date of knowledge for mesothelioma claims was October 1965 at the latest, following the publication of papers by Thompson & Newhouse which linked the disease to asbestos exposure and a Sunday Times article *Scientists track down a killer dust disease*.⁴² However, certainly in cases of low exposure, the date of knowledge may be considerably later. In *Williams v University of Birmingham*,⁴³ it was held that 78 hours of exposure to 0.1 f/ml of asbestos in 1974 did not amount to a breach of duty because, at that time, it was acceptable to rely on Technical Data Note 13 (TDN 13: *Standards for Asbestos Dust Concentration for Use with the Asbestos Regulations 1969*, which accompanied the 1969 Asbestos Regulations) which suggested exposure to chrysotile and / or amosite asbestos up to 2 f/ml (over a 4 hour sampling period) did not require action. Based on that guidance the defendant could not reasonably have been expected to know about the risks of exposure at lower levels. This view that TDN 13 indicated a 'safe level' was recently affirmed in *Hill v John Barnsley and Sons Limited*.⁴⁴ Whilst TDN13 specifically related to exposure arising from occupation, by extension, it may be considered the appropriate standard against which to assess 'safe' exposure in other contexts such as schools – indeed it was so relied upon in *Williams* where the claimant's exposure arose whilst a student at the University. Prior to TDN13 the only guidance limits to exposure were those found in 1960 and 1968 editions of *Toxic Substances in Factory Atmospheres*, where a fibre concentration of 30 fibres/ml (8 hour time weighted average) was regarded as a 'ceiling value'.

In 1976 TDN13 was replaced by the HSE Guidance Note EH10, which gave revised criteria which the HSE was to adopt in determining whether the requirements of the 1969 Regulations were being observed. However for the first time there was the recommendation that exposure be reduced as far as reasonably practicable.

It seems that the risks to the general public arising from exposure to asbestos only came to be first considered in 1976 when the Health and Safety Commission appointed an advisory committee on asbestos (ACA) to look into the issue. The ACA reported in 1979 that:

'Firm conclusions about asbestos dust levels in buildings cannot be drawn from the present data. However...the number of people at risk is probably small...Our evidence of the non-occupational risk is not such as to prompt us to recommend the general removal of asbestos from buildings. Present evidence suggests that dangers from asbestos in buildings are likely to arise only when asbestos fibres are released into the air when products containing asbestos are damaged, either accidentally or during maintenance and repair'.

At the same time the ACA recommended that a programme of work be started to evaluate asbestos exposure in non-occupational environments. In 1983 the Department of Environment published a guidance '*Asbestos in Buildings*' which for the first time laid down guiding principles for assessing and controlling exposure to asbestos in commercial and non-commercial buildings. This publication gave an overall estimate of the concentration of asbestos in buildings at 0.4f/l and said that the risk arising

from typical levels of exposure in buildings was 'very small, especially when compared to other common risks, such as road accidents or accidents in the household'. However at the same time it advised 'to reduce exposure to the minimum that is reasonably practicable'.

Breach of duty

In the case of schools then, it becomes clear that exposure to any level of asbestos does not automatically amount to a breach of duty where the exposure is not beyond the background level of asbestos for buildings containing asbestos which is well maintained. Rather, it will depend upon what action was taken by reference to the prevailing knowledge and standards at the time. For example, in 1970, when TDN 13 was published, it was regarded as 'safe' to expose individuals to chrysotile and amosite asbestos up to levels of 2 f/ml. It was only in 1976, when EH10 was published, that the notion of reducing the level of exposure to asbestos to the lowest level that was 'reasonably practicable' became relevant. Furthermore, it was only in 1983 that advice specifically aimed at local authorities was produced. The *Asbestos Materials in Buildings* booklet gave guidance on how and where asbestos was used in buildings such as local authority housing, schools, colleges, hospitals and public buildings. It recommended that asbestos materials in good condition be left undisturbed, that the release of asbestos dust should be avoided as far as possible and that the concentration of airborne asbestos in occupied areas be reduced to the lowest reasonable practicable level.⁴⁵

The issue of breach therefore depends upon the knowledge, advice and standards prevailing at the time, and the quality of the search for asbestos, the assessment of risk, the measures that were put in place when it was discovered, and how often the asbestos was inspected by reference to those standards.

So if exposure arose from a slightly damaged classroom wall made of asbestos insulation board in the 1950s then breach of duty would probably not arise. If the same exposure arose in the 1980s then breach would probably attach. Common sense should also be applied when considering issues of breach of duty. If work was required on any asbestos containing materials, or building works involved their disturbance, then, depending upon the urgency of such works, it would make sense that they were carried out outside of term time or school hours, rather than when children were present and liable to be exposed.

A finding of breach of duty however depends wholly on the specific circumstances of each case.

Causation of damage

If the school has breached its duty, the final stage for a claimant would be to demonstrate that the breach of duty caused their mesothelioma. Ordinarily this would require showing that 'but for' the breach of duty the mesothelioma would not have resulted. However, here a special rule of law applies because of the scientific impossibility of determining which exposure to asbestos caused the mesothelioma.

Under the special rule of law, which is explained above in Part I, an individual will have demonstrated a causal link where the defendant has, in breach of duty, been responsible for exposing the individual to a significant quantity of asbestos dust and thus materially increased the risk of the individual contracting mesothelioma. Moreover, if there are multiple exposures by multiple defendants they will each be held jointly and severally liable for causing the disease.⁴⁶

The individual must be exposed to more than a trivial amount of asbestos and it must increase the risk of contracting mesothelioma by more than a trivial amount.⁴⁷ This requires the individual to actually prove, on the balance of probabilities, that they were exposed to a material amount of asbestos from a certain source which materially increased their risk of contracting the disease. It is not enough, as

Garner v Salford CC recently demonstrated,⁴⁸ to simply point to the only possible source of exposure and say it must have caused the mesothelioma.

However, if an individual can prove that their school breached a duty of care that it owed to them, and that it materially increased their risk of contracting mesothelioma, then they will successfully recover damages for their mesothelioma. It is anticipated that many mesothelioma cases against schools and local authorities will be 'single exposure' cases, where 'background' environmental exposure, that everyone experiences during their lifetime, will be the only exposure other than that alleged with the defendant school / local authority. In such cases even very small levels of exposure may amount to a significant exposure which materially increases risk.

This was clearly demonstrated in the conjoined appeals of Sienkiewicz and Willmore, where asbestos exposure in both cases was 'very light'. In Willmore, the deceased's childhood exposure at school (if it occurred at all) arose over a few weeks from walking through a corridor and using the girls' toilet where asbestos ceiling tiles had been stacked. In Sienkiewicz, a single occupational exposure amounted to no more than c. 1/5th of lifetime environmental exposure.

In other cases, where there is some occupational exposure(s), then the very same exposure may no longer be significant and fall within de minimis principles. We demonstrate this within the examples in annex 2 (where rough and ready calculations of relative exposures are applied for simplicity of example).

Damages

For a comprehensive guide, see our Mesothelioma Quantum Guide.

Conclusion

This article has examined mesothelioma law and liability and the potential for a future claims from those exposed to asbestos at schools and colleges (or perhaps local authority housing). Schools, colleges and local authorities face a real risk of becoming defendants of last resort in cases where there is no known occupational exposure to asbestos (or perhaps no identifiable solvent defendant / insurer).

The special rules of causation may well assist claimants where even very low exposures may be seen as more than de minimis and materially contributing to the mesothelioma. In cases where there is some other occupational exposure(s), which significantly outweighs the school exposure, then a de minimis defence may still be available.

It is important to remember that whilst the test of causation has been relaxed in mesothelioma claims, a claimant must still prove a case on breach of duty and as Lord Rodgers [166] cautioned in Sienkiewicz '*especially having regard to the harrowing nature of the illness, judges, both at first instance and on appeal, must resist any temptation to give the claimant's case an additional boost by taking a lax approach to the proof of the essential elements*'. In the case of Mrs Willmore, the judge's inferences at 1st instance to make findings of facts as to exposure were described by the Supreme Court as '*very generous* [Lord Rodgers 166] and '*truly heroic*' [Lady Hale 173]. Lord Brown said that on the material before him there was insufficient proof of exposure and '*the judge found exposure on a slender and speculative basis*'.

A claimant must prove exposure on the balance of probabilities, and such exposure must amount to a breach of duty. Exposure in itself is not sufficient evidence of breach.

ANNEX 1

A REVIEW OF ASBESTOS LEGISLATION

The legislation first promulgated to protect individuals specifically from asbestos was the Asbestos Industry Regulations 1931. These applied principally to the asbestos manufacturing industry, although the definition of asbestos manufacturing was fairly broad.

The Asbestos Regulations 1969, which came into force in May 1970, were more general regulations to protect all employees from asbestos. These applied to workers and aimed to give the first quantitative control levels. Prior to this, the Factories Acts 1937-1961 and the Building (Safety, Health and Welfare) Regulations 1948, the Shipbuilding and Ship-repairing regulations 1960, the Construction (General Provisions) Regulations 1961, and the Construction (Working Places) Regulations 1966 dealt more generally with preventing employee exposure to harmful dust.

In 1974, the Health and Safety at Work Act 1974 required employers to conduct their work in a way that would not expose employees and other persons affected by the work to health and safety risks. This obviously includes exposure to asbestos.

In 1983, the Asbestos Licensing Regulations 1983 required those working with asbestos to acquire a licence from the HSE to ensure standards of workmanship.

From 1985-1999 a range of regulations, including the Asbestos Prohibition Regulations 1985, the Asbestos Products Safety (Amended) Regulations 1985 (amended in 1987), the Asbestos Prohibition (Amended) Regulations 1988, the Asbestos Prohibition Regulations 1992, and the Asbestos Prohibition (Amended) (No. 2) Regulations 1999, were introduced prohibiting the import, supply and use of asbestos products. By 1999, the importation, supply and use of all asbestos containing products had been prohibited.

The Control of Asbestos at Work Regulations 1987 (amended in 1992) introduced statutory control procedures to prevent workers from exposure to asbestos in workplaces directly involving asbestos. Duties were also imposed to protect others who might also be exposed to the asbestos. The regulations required the prevention of exposure or the reduction of exposure to the lowest reasonably practicable level. It also imposed a number of action levels and control limits.

The Control of Asbestos in the Air Regulations 1990 imposed an emission limit of 0.1mg/m³ for asbestos emissions to the air by industrial installations utilising asbestos processes.

The Control of Asbestos at Work Regulations 2002 updated many of the previous regulations. However, its primary change was to introduce a duty to manage asbestos in all non-domestic premises. The requirements of this duty were: a 'suitable and sufficient assessment' had to be carried out to determine whether asbestos was or was liable to be present in the premises. This included taking into account building plans and other relevant information, such as the age of the premises. The inspection should have covered all reasonably accessible parts of the premises. The duty holder was to presume that materials contained asbestos unless there was strong evidence to the contrary. In making the assessment the duty holder needed only to take such steps as were reasonable in the circumstances. The assessment had to be reviewed immediately if there was any reason to suspect it was no longer valid or if there had been a significant change in the premises. The conclusions of the assessment and every review had to be recorded in writing. If the assessment indicated the presence or likely presence of asbestos (or asbestos containing material), a determination of the risk from that asbestos had to be made and a written plan identifying those parts of the premises concerned had to be prepared specifying the proposed measures to manage the risk. The specified measures for managing the risk had to include adequate measures for monitoring the condition of any asbestos or asbestos containing material, ensure that it was properly maintained or safely removed, and that information concerning its location and condition was provided to every person liable to disturb it and made available to the emergency services. The duty holder had to ensure that the plan was reviewed and revised at regular

intervals. If there was a reason to suspect that the plan was no longer valid or there had been a significant change in the premises, then the plan had to be revised immediately. The duty holder had to ensure that all measures in the plan were implemented and recorded in writing.

The Control of Asbestos Regulations 2006 combined a number of previous regulations into one, including the 2002 Regulations. These replaced action levels with a single control limit of 0.1 f/cm³ over 4 hours. It also introduced a Short Term Exposure Limit (STEL) in the Approved Code of Practice of 0.6 f/cm³ over 10 minutes.

In 2012, the Control of Asbestos Regulations 2012 replaced the 2006 Regulations. They essentially re-enact the provisions of the 2006 Regulations (which were largely based on the 2002 Regulations) with some changes to notification requirements and recording requirements for non-licensed work.

ANNEX 2-WORKED EXAMPLES OF SIGNIFICANT AND INSIGNIFICANT SCHOOL EXPOSURES

EXAMPLE 1

THE FACTS

- C develops mesothelioma aged 80
- Exposure within 10 years of onset considered non-causative-so exposure to age 70 considered
- The C had 3 exposures to asbestos:
 - Environmental at 0.0001 f/ml for 70 years
 - Background exposure at school which contained asbestos in good condition at 0.0005 f/ml for 7 hours per day for 39 weeks per year x 5 days per week (or 195 days)
 - 4 week exposure at school to asbestos in poor condition at 0.15 f/ml
- Assume a constant breathing rate for the claimant of 8000 ml/min

THE EXPOSURE

- **Environmental**
c. 29.5 million fibres
[1440 mins/day x 365 days/yr x 70 years x 8000 ml/min x 0.0001f/ml]
- **Background at school aged 5-16 (12 years)**
c. 3.9 million fibres
[420 mins/day x 195 days x 12 years x 8000ml/min x 0.0005f/ml]
- **School from asbestos in poor condition**
c. 10 million fibres
[420 mins/day x 20 days x 8000ml/min x 0.15f/ml]

RELATIVE EXPOSURES

- **Overall lifetime exposure**
43.4 million fibres
[29.5+3.9+10]
- **Relative exposures**
 - Environmental 68% [29.5/43.4]
 - Background school 9% [3.9/43.4]
 - School asbestos in poor condition 23% [10/43.4]

CONCLUSION

The school would not be in breach of duty in respect of the 12 years background exposure to asbestos. The school is in breach of duty in respect of the 4 week exposure from asbestos in poor condition. At 23% of overall lifetime exposure, such exposure would make a material contribution and the defendant would be liable.

EXAMPLE 2

THE FACTS

- As above
- But now with an occupational exposure from machine sawing asbestos insulation board 2 hours per day x 10 years (240 working days) at 20 f/ml

THE EXPOSURE

- **Environmental**
29.5 million
- **School background**
3.9 million
- **School asbestos poor condition**
10 million
- **Occupational**
768 million
[2 x 240 x 10 x 8000 x 20=768 million]
- **Overall**
29.5+3.9+10+768=811.4 million fibres

RELATIVE EXPOSURES

- Environmental 3.6% [29.5/811]
- Background school 0.5% [3.9/811]
- School asbestos in poor condition 1.2% [10/811]
- Occupational [768/811] 94.7%

CONCLUSION

The school exposure relating to asbestos in poor condition is now responsible for only 1.2% of overall lifetime exposure. Such exposure may no longer be considered significant and fall within de minimis principles for which the defendant would not be liable.

¹ [2002] UKHL 22 <<http://www.bailii.org/uk/cases/UKHL/2002/22.html>> accessed 19 June 2013; [2006] UKHL 20 <<http://www.bailii.org/uk/cases/UKHL/2006/20.html>> accessed 19 June 2013.

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- ² Sienkiewicz v Greif (UK) Ltd [2011] UKSC 10 <<http://www.bailii.org/cgi-bin/markup.cgi?doc=/uk/cases/UKSC/2011/10.html&query=sienkiewicz&method=boolean>> accessed 19 June 2013.
- ³ Ibid.
- ⁴ Ibid [107].
- ⁵ Ibid [60].
- ⁶ Ibid [166].
- ⁷ Ibid.
- ⁸ [2013] EWHC 1573 (QB) <<http://www.bailii.org/cgi-bin/markup.cgi?doc=/ew/cases/EWHC/QB/2013/1573.html&query=garner+and+salford&method=boolean>> accessed 20 June 2013. A case digest appears in last week's edition of BC Disease News. See BC Legal, n 8, 5.
- ⁹ Sienkiewicz, n 13, [193] (Lord Mance).
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